

ABSTRACT OF THE DISCLOSURE

[0063] Using configurable arrays, synthetic aperture processes may be used along an elevation dimension for increasing resolution. The increased resolution is used for two-dimensional or three-dimensional imaging. Alternatively or additionally, wide band synthetic elevation aperture focusing processes, such as beamformation, are provided along the elevation dimension to increase resolution. In yet another alternative or additional embodiment, a transducer is rotated about a center of the transducer within the elevation and azimuth plane. An aperture associated with the transducer is mechanically or electronically rotated, and ultrasound data acquired associated with a plurality of different positions. The ultrasound data is then used for synthetic elevation aperture processing. In yet another alternative or additional embodiment, multiple scanning modes are provided. In a survey mode, imaging is provided without synthetic elevation aperture processing. For greater detailed imaging, imaging is responsive to synthetic elevation aperture processes with different elevation focusing and scanning.